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ABSTRACT

This report lists the accomplishments of a metric leader training project, which include production of a training manual and a series of workshops. Major events and activities are also listed. The evaluation report includes summaries of biographic data and profiles of participants in training, data on cognitive and affective dimensions of trainees, evaluations of training sessions, and perceptions of trainees about training sessions conducted by them after the formal training of the project. A wide variety of exhibits is also included. (MK)

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FINAL PROGRAM REPORT OF THE METRIC LEADER TRAINING PROJECT FOR MAINE

by

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SE 030 762

Program Performance Report - Final Report

(1) Project No. 561 AH 70065

(2) Grant No. G007700 833

(3) Title of Project: Metrification Leader Training Project for Maine

(4) Grantee Organization: University of Maine, Orono

(5) Project Directors: John W. Butzow, Jr.
Bernard R. Yvon

(6) Period covered: 9/1/77 - 6/1/78

(7) Accomplishments:

I. Objective: Materials Preparation

"To locate and/or develop and disseminate a set of instructional materials for training metrification leaders."

Progress:

The instructional materials disseminated to approximately 250 metric leaders in the state of Maine are included in a copy of the Training Manual which accompanies this report. The contents of the manual are listed in a summary on cover page of the Training Manual. These instructional materials were designed to meet the project objectives of providing:

(a) SI "hands-on" learning activities including units and measurement skills commonly used in everyday life.

(b) Readings on metrification as a community enterprise.

(c) Bibliography of SI oriented publications of interest to the everyday citizen.

(d) Procedures for measuring cognitive and psychomotor learning USI units and their uses.

(e) Annotated bibliography of curriculum soft and hardware.

(f) Readings in pedagogical issues.

(g) Readings and directions in how to evaluate SI hard and software.

(h) Example procedures of cognitive psychomotor and attitudinal testing of school age learners.

(i) Sample presentations designed to interest a lay audience.

(j) Readings on ways and means for parents and other adults to help youngsters and each other learn the SI system.

We also believe that the Resource Guide for Metric Education which is included in the Training Manual is an excellent reference source for those topics which we have not been able to include in the Training Manual itself.

II. Objective: Leadership Training
"To prepare a cadre of metrification leaders who will disseminate metric information and participate in the training of others for metrification."

Program Narrative pp. 8-9

Progress:
We are presently training approximately 250 metric leaders throughout the state of Maine. Workshop sites are located in Van Buren, Presque Isle, Millinocket, Bangor, Waterville, Auburn, and South Portland. The training program has consisted of five workshops conducted in each of the sites. A "Workshop Outline" of the workshop sessions is included in the Training Manual which accompanies this report.

Emphasis in training has been upon learning basic SI metrics through "hands-on" experience, metric advocacy in the community, resources for metric education, and metric education skills.

Our training group consists of approximately 75% professional educators at all educational levels (K-college), 25% people in other occupations. Final tabulation of the number of participants and their occupations are included in the Evaluation Report. An occupational profile of participants who attended the first workshop in each of the sites is included. (Exhibit Q) Participants were required to offer metric training themselves to others by May 17, 1978. Results and percentages of participants who actually conducted training programs is included in the Evaluation Report.

III. Objective: Major Program Objectives (Long term)
"A. Provide a metrically well informed citizenry in key communities in Maine."

Program Narrative p. 9

We believe that the metric leaders who have participated in our training program are well informed and have developed basic metric estimation and measurement skills. We administered both and post-tests of estimation skills and included resulting data in the evaluation report.

The effect which the metric leaders we have trained will have on community citizens in Maine is potentially significant. In the short term, 111 participants conducted training sessions attended by 2247 people or approximately .2% of the state population. Further data is given on page 9 of the evaluation report. The long term ripple effect is potentially even greater. In the case of educators we expect this impact to be long range in terms of classroom use.

"B. Develop a strong, supportive public attitude toward SI educational programs and needs."

Program Narrative p. 9

We have given special emphasis to the attitude component in our training program. The results of an opinionnaire administered pre- and post-training show that attitudes in the participant population significantly increased at the 0.01 level of significance. The evaluation report pp. 4-5 provides more data on this issue.

Unfortunately, the prevailing public attitude statewide toward metrics remains negative but we believe that the metric advocacy skills and attitudes of the metric leaders we have trained will have a positive impact.

"C. Provide a metrically well prepared core of teachers (K-12) for Maine schools"

Program Narrative p. 9

As previously noted the largest number of participants in our training program consists of public and private school teachers. This group is representative of all grade levels with a larger number of elementary teachers than junior and high school teachers participating. We also were fortunate to have a number of school administrators taking part. The potential impact of inservice training which can be conducted by these teachers and school personnel we have trained is very promising.

"D. Provide each impacted school with a plan for metrification and ultimately with a workable metric curriculum and supportive hard and software."

Program Narrative p. 9

Our approach toward this objective was to encourage the participants in the Leader Training Program to work with school personnel in developing metrification plans and metric curriculum. We believe that they know best the present status and needs of their particular schools and that we can best act in a supportive resource role. Similarly we encouraged them to obtain their own hard and software since our own resources are limited and we believe that when they have made a financial commitment to obtain metric education resources, they are well on their way toward having a positive effect upon metrification in their community.

(8) Major Activities and Events

A. Publicity and Recruitment

The initial phase of the project consisted of publicizing the program and recruiting participants on a statewide basis. Publicity materials are included in this report under Item 10-Publicity Activities. Recruitment efforts were made through the following channels:

(1) Maine State Superintendents Association
(2) Maine State Principals Association
(3) Cooperative Extension Service
(4) Franco-American Program
(5) Literacy Volunteers
(6) Department of Marine Resources
(7) Metrical Senior Volunteer Program
(8) Maine Retired Teachers Association
(9) State and local Chambers of Commerce
(10) Bureau of Labor Education
(11) Department of Education and Cultural Services
(12) Junior League
(13) American Association of University Women

The recruitment effort included mailings, telephone calls, and some personal visitation.

The results of the publicity and recruitment phase were excellent and are described in the recruitment report. Five hundred and fifty four interested inquiries and 412 persons were in attendance at the first session in which the Leader Training Program was explained. We expected that between 225 and 250 people would actually complete the Leader Training Program and conduct some form of off-site training in their communities. Our fifth and final session was attended by 233 participants.

B. Program Development

The bulk of the Leader Training Program has been developed by the staff. This development included design of each workshop session, writing of original activities and content materials which were provided for the participants, duplicating and assembling printed materials, and collecting necessary hardware for workshop sessions.

C. Workshops

As of April 10, 1978, a total of 35 workshops were held throughout Maine under the aegis of the Maine Metric Education Leader Training Program. Each workshop has been three hours in duration and covered the topics indicated in the "Workshop Outline" included in the Training Manual. Five workshops were held in each of the seven workshop sites: Van Buren, Presque Isle, Millinocket, Bangor, Waterville, Auburn, and South Portland.

D. Metric Advocacy

As time permits, the program staff has done metric advocacy work of their own in addition to encouraging participants in the Leader Training Program to do community metric development work. Included in these activities have been television programming of two one-half hour segments on both public and commercial stations in addition to numerous radio interviews and spot announcements arranged through the Public Information Service of the University of Maine at Orono and through individual contact with media persons.

(8) continued

E. Administration

Ordering of equipment, financial records, attendance and credit application of participants, site and travel arrangements, evaluating homework and testing of participants, and correspondence, are among the administrative duties required of the Program staff.

(9) Problems

Project Plan Schedule - No major problems have developed in the timing of the original project plan although there have been several modifications.

A. Workshop sites were developed around interest expressed through inquiries sent to the Program. Consequently, workshop sites were altered from the original plan to meet the level of interest in particular geographic areas. We have included Van Buren, Bangor, Waterville, and Auburn as workshop sites in place of originally planned locations in Madawaska, Old Town, Augusta, and Rumford.

We have not located a workshop site in Machias as originally planned, in order not to conflict with the metric education program at the University of Maine at Machias.

The workshop sites cover a wide geographic range within the state and we are convinced that we have made it possible for a large majority of Maine citizens to have access to the training.

B. The recruiting and planning phase fell largely within the planned dates of September 8, 1977, and October 31, 1977. We had to extend the training phase beyond the projected conclusion date of February 28, 1978, in order to meet scheduling difficulties which included school vacations, academic schedules and the sheer magnitude of the task of trying to cover a state as large as Maine. Consequently, we completed this phase of training in April 10, 1978. This only provided one month for participant conducted training to be reported to the Project.

C. Local workshops conducted by the participants in our Leadership Training Program were completed by May 17, 1978. While we found that 111 participants actually trained others and feel this is a substantial percentage (47%) of trainees actually meeting this deadline, a longer time likely would have increased it.

D. Our original plan as described in the Program Narrative (pp. 14-15) called for a series of nine workshops to be held in each of eight regional sites. These plans were based upon the expectation that significantly more travel money would be granted to the project which would enable each staff member to travel separately. Unfortunately, this money was not forthcoming and resulted in our cutting back the number of workshops per site to five. At the same time, each site has benefited by the presence of at least two and usually three staff members during the workshop sessions.

E. While we have been pleased with the level of interest in and commitment to the Leadership Training Program and with the total number of participants, we have also discovered taht the training we are offering has not appealed to the wide range of occupational and ethnic groups which we hoped to include. In spite of concentrated efforts to recruit various occupations and ethnic groups into the Program, we have been most successful in reaching educators and those people who would not necessarily represent a particular ethnic group. This suggests that metric education may have to be offered to specific occupational and ethnic groups on a select basis.

(10) Publicity Activities

Letters

Letter (Exhibit A) - October 13, 1977 - - Sent to principals of every Maine school.

Letter (Exhibit B) - October 19, 1977 - - Sent to various unions, cooperatives, service clubs, chambers of commerce

Letter (Exhibit C) - October 21, 1977 - - Sent to all vocational education directors

Letter (Exhibit D) - November 11, 1977 - - Sent to all subscribers of Le Forag-Forum

Brochures

Maine Metric Education Leader Training Program, 2 pp. (Exhibit E).

4,000 printed and enclosed with all publicity mailings

Programme on Education Metrique (Exhibit F).

French translation of above

November 1 Releases

For release Saturday, October 22 (Exhibit G) -

to all newspapers in the State

For release Friday, November 11 (Exhibit H) -

to all newspapers in State

UMO Public Service Announcement - to all television and Metric Training Programs (Exhibit I) radio stations in State

For release Monday, July 25 (Exhibit I) - to all newspapers in State

(10) Continued

Newspapers

"Give them an inch and they'll take centimeters" - (Exhibit J)
Maine Campus September 30, 1977

"'Little man' hit by metric switch" (Exhibit K)
Bangor Daily News November 10, 1977

"Metric workshops mark education week" (Exhibit L)
Bangor Daily News November 10, 1977

"300 wanted for training in metrics" (Exhibit M)
Kennebec Journal October 21, 1977

Metric Education Comes to Maine (Exhibit N)
Le Farog Forum November 1977

Newsletters

Maine Metric Education Leader Training Program (Exhibit O)
Maine Right to Read Newsletter

"Maine Metric Education Leader Training Program" (Exhibit P)
New Beginning

Penquis Retired Senior Volunteer Program

Newsletter - October 1977 - reprinted brochure as in Exhibit E
Maine State Science Teachers Association

(11) Dissemination Activities

All of the materials which are included in the Training Manual which accompanies this report, have been made available to participants in the Leader Training Program in addition to a metric education packet described on page 1 and 2 of the "Workshop Outline." These materials were distributed over the period of the 5 session workshops to each of the participants. We encouraged each participant to write to us if they were absent from a session or did not receive these materials for some reason. Also, we distributed free materials such as equipment catalogs, and other instructional aids as they were made available to us.

At the conclusion of the 5 training sessions each participant had available a complete Training Manual.

(12) Progress on Data Collection and Evaluation Plans and Procedures

The following data have been collected from the workshop participants;

A. Biographic Data Questionnaire (Exhibit R)
B. Opinionnaire About Metrics administered at both the first and last session (Exhibit S)
C. A Cognitive Test administered at both the first and last session (Exhibit T and U)
D. Evaluation of the Training Session obtained for sessions #1, #3 and #5 (Exhibit V)

(12) continued

E. Off-site training report on ripple-multipleer effect of project (Exhibit W)

Forms A, B, D were developed by our outside evaluators, Dr. Charles Smith and Dr. David Silvernail at the University of Southern Maine (Gorham, ME.) They worked as consultants to the project and analyzed all data collected in the project. Their evaluative report is contained later in this final report.

(13) Other Activities N/A

(14) Staff Employment and Utilization

The co-directors of the Maine Metric Education Leader Training Program have been John W. Butzow andBernard R. Yvon of the College of Education, University of Maine at Orono, who have conducted the workshop sessions and have been primarily responsible for the direction of the Program. Staff assistant has been Gregory W. Marshall.

Additional released time was requested by the Program directors from their faculty duties at the College of Education since the 1/2 time load projected to be devoted to the Leadership Training Program was not adequate to complete the Program. The Dean of the College of Education granted this request.

(15) Staff Development N/A

Maine Metric Education Leader Training Program

Report on Recruitment of Participants

Synopsis: Phase I of the Maine Metric Education Leader Training Program consisted of the recruitment of participants for the Program. This report describes the publicity announcing the Program to potential participants and the results of the recruitment effort. This report also offers conclusions based on results of the recruitment process.

Publicity: A major effort was made to announce the Maine Metric Education leadership Training Program to the public and thereby to interest potential participants during the time period between October 1 and November 15, 1977. The major elements of this publicity campaign included:

A. a brochure (Exhibit A) which was the primary source of information about the Program and which was included in all mailings to prospective participants, institutions and organizations. Four thousand copies of this brochure were printed and distributed.

B. contact of various institutions, organizations, clubs, associations, unions, cooperatives, etc. These groups were selected on the basis of their representing a cross-section of occupational and ethnic groups within the state. Contacts were made by letter, telephone, and personal visitation. A description of each of the contacts and the publicity made available to each group, follows.

1. Educational Institutions and Organizations

a. Maine State Principals Association - letter (Exhibit B) and brochure to 955 elementary and secondary school principals representing all private and public schools in the State.

b. Maine State Superintendents Association - meeting of Program staff with superintendents of Hancock, Cumberland, and Penquis Associations; telephone contact with presidents of remaining 5 associations who distributed brochures and descriped the Training Program at regular monthly meetings.

c. Directors of Adult Education - letter (Exhibit C) and brochures to 100 Adult Education Directors listed in the Adult Education Directory published by the Division of Adult Education, Department of Educational and Cultural Services, State of Maine.

d. Vocational Education Directors - letter (Exhibit D) and brochures to all directors of Regional Techical Vocational Centers, Regional Vocational Centers, and Post-Secondary Vocational-Technical Schools.

e. Maine Teachers Association - Newsletter article

f. Maine Retired Teachers Association - letter, brochure, and telephone contact with President.

g. Maine School Management Association - Newsletter article

2. Business, Labor, Government

a. Unions - trade councils - letter (Exhibit E) and brochures for 15 major labor and trade councils listed in the Directory of Maine Labor Organizations (1977), State of Maine Bureau of Labor.

b. AFL-CIO Conventions - Exhibit at the annual convention of the Maine AFL-CIO arranged by the Bureau of Labor Education, University of Maine, Orono.

c. Chambers of Commerce - Letter (Exhibit E) and brochure to 150 members Bangor Chambers of Commerce, 50 members of Waterville Area Chamber of Commerce, 37 members of Presque Isle-Caribou Chamber of Commerce.

d. Marine Industries - letter (Exhibit E) and brochure to 32 seafood processors listed in Wholesale Seafood Dealers and Processors, (1977), Maine Department of Marine Resources.

e. Agriculture - letter (Exhibit E) and brochure to 11 major poultry and egg producers, Maine Potato Council and 12 growers associations and commodity organizations; program directors met with Cooperative Extension agents in the northern region of the state and the Program was explained and brochures distributed by an Extension agent in the southern region.

f. Maine Municipal Association - exhibit and brochures of annual convention arranged by Bureau of Public Administration, University of Maine at Orono; letters sent to (Exhibit E) 18 affiliated groups.

3. Ethnic Groups

a. Native American Indians - staff met with Indian counselor at University of Maine at Orono who personally distributed brochures and made contacts in the Indian community; telephone contact, letter and brochures to Indian Counselor in Houlton, and Director of the Association of Aroostook Indians.

b. Franco-American Program - staff met with director of Franco-American Program at University of Maine at Orono; brochure and accompanying letter printed in French (Exhibit F and G) and mailed to 400 recipients of Le Farog Forum, a French-English newspaper. Communities targeted included Biddeford, Lewiston, Auburn, Waterville, Old Town, Millinocket, Presque Isle, Van Buren; article printed in Le Farog Forum (Exhibit H).

4. Volunteer Programs

   a. Literacy Volunteers - telephone, letter (Exhibit E) and brochures sent to 7 regional directors.

   b. Maine Right to Read - newsletter article (Exhibit I).

   c. Junior League - telephone contact, letter (Exhibit E) and brochure sent to two State chapters.

   d. American Association of University Women - telephone contacts, letter (Exhibit E) and brochure sent to State president and Bangor Chapter president.

   e. Retired Senior Volunteer Program - telephone contact, letter (Exhibit E) and brochure sent to 6 regional directors.

   f. Maine State Bureau of Volunteers - telephone contact provided names of agencies to be informed about Program.

5. Hospital Educators

   a. Northern RAISE - Aroostook County - telephone contact, letter, brochures sent to this educational group for a consortium of hospitals in Northern Maine.

   b. Project RISE - telephone contact, letter, and brochures sent to this educational group for a consortium of hospitals in Central Maine.

   c. Continuing Education directors - telephone contact, letters (Exhibit E) and brochures to 4 major hospitals in site areas.

   d. Maine State Nurses Association - newsletter article

6. Other

   a. Maine Register of Organizations and Clubs - 151 letters (Exhibit E) and brochures sent to organizations and clubs listed in Maine Register State Yearbook, 1977-78.

   b. Millinocket - publicity in this site was coordinated by Mr. Robert Pelletier, Superintendent of Schools. In addition to publicity information which would have reached this area by means listed above, Mr. Pelletier made personal contacts in the business, educational and industrial community in the Millinocket area.

C. Media publicity - the public was informed of the Maine Metric Education Leader Training Program through the channels of the public media including the following:

1. Television - a. A public service announcement (Exhibit J) made by the Department of Public Information and Central Services, University of Maine at Orono, was distributed to the private and public television stations in the state and included a visual presentation of address of the Program.

b. WABI-TV - Bangor, thirty minute interview and demonstration with Program directors on "Follow UP", October 28.

c. WLBZ-TV - Bangor, Community Bulletinboard - 5-minute interview with Dr. Bernard Yvon, October 24.

2. Radio

a. public service announcement (Exhibit K) distributed to all radio stations.

b. WPBC - Bangor, ten-minute "Focus Interview" with Dr. Bernard Yvon, October 24, 1977.

c. WPDH-Orono - "Maine Things Considered" taped interview with Program Directors, October 6, 1977.

d. WGUY-Bangor - taped interview, October 27, 1977.

e. Radio interviews on Portland and Lewiston radio newscasts, October 31-November 4, 1977.

f. WPBC-Bangor - series of four, ten-minute "Focus" interviews to be spaced over 3 months.

3. Newspapers

a. News release (Exhibit L) 7/25/77 statewide to newspapers.

a. News release (Exhibit M and N) 10/22/77 statewide to newspapers.

b. News release (Exhibit O and P) 11/11/77 statewide to newspapers.

Recruitment Results

Interest Inquiries - As a result of the publicity described, the Maine Metric Education Leader Training Program received 554 expressions of interest in participating in the Training Program. Only those people who returned an application form included in the announcement brochures (Exhibit A), are included in this total. Telephone or letter inquiries were followed by mailing of a brochure to the interested party. Applications returned from each of the site areas numbered as follows:

	Interested Applicants	Attended Session #I	Completed Sessions 4/5
Van Buren	25	26	15
Presque Isle	48	27	8
Millinocket	80	62	22
Bangor	104	83	50
Waterville	85	54	34
Auburn	85	60	44
So. Portland	127	100	64
Total	554	412	237

Occupational Range - Of the participants who attended the first session, 55% were occupied in an educational area and the remaining 45% were distributed over a wide range of occupational categories. In addition, the occupational profile of each site area varied significantly which suggests that the publicity recruitment effort had a variable impact throughout the State. See biographic data information, pp 1-2 Evaluation Report.

Ethnic Range - Refer to biographic data information for the ethnic group distribution for the Program as a whole and by site area.

Conclusions

(1) In terms of total number of interested applicants, those who attended the first workshop session, and those who eventually completed the Training Program, the recruitment of participants was a success. The projected goal for number of participants was 300 and this goal was initially exceeded. Attrition rate from the Program brought the number of participants to a level within this projected number.

Conclusions - continued

(2) Of those persons recruited into the Leader Training Program a large percentage represented the education sector with a lesser percentage of participants representing other occupational groups. We conclude that this result is indicative of a) a higher level of interest in the education community resulting from greater educational needs reflecting the State Department of Educational and Cultural Services mandate that metric instruction be included in school curricula by the end of 1978, and (b) a corresponding lower interest level in the non education community reflecting a general lack of leadership on a national level with respect to metric conversion; and (c) a higher level of accessibility to the publicity generated by the staff. We continually found that where we had already established communication channels in the education community which did not exist in other areas, we were able to publicize the Program more effectively.

(3) There exists a significant variation in the occupational profile of those people recruited into the Training Program at different training sites which we attribute to the variation in types of publicity available in a particular site area. For example, in both Bangor and Presque Isle where publicity information was mailed through the local Chambers of Commerce, there are more non-educator participants. Also, in Millinocket, where special publicity was coordinated by a person living in the community, toward all occupational segments of that community, there is a wider occupational range. These results would suggest that the publicity-recruitment effort was steered in certain locations toward the education community and away from other occupational groups. This variation is also due to the fact that certain site areas particularly those close to a University campus have previously been impacted by metric education efforts.

Maine Metric Education Leader Training Project

Evaluation Report

The enclosed integrated summary is the completed evaluation report on the Maine Metric Education Leader Training Program. This evaluation report encompasses the three phases of the project conducted during 1977-78 as outlined in your project proposal.

This report includes evaluative data as outlined in our proposal of November 9, 1977 as amended by mutual agreement. The major components of this report includes summaries of:

1. biographic data and profiles of participants in training
2. data on cognitive and affective dimensions of trainees
3. evaluations of training sessions
4. perceptions of trainees about training sessions conducted by them after the formal training of the project

The format of this report will give general summaries of each component, tabled supportive data and major findings determined through this evaluation.

Biographic Data and Profiles of Participants

Analysis of biographic data sheets showed 48% of the participants to be male and 52% to be female. 99% of the population under study indicated they were white. 55% of the participants indicated they were educators, while 45% of the trainees came from the ranks of housewives, business and industry. 68% were under the age of 40, while 32% distributed themselves from age 41 to age 60. 73% of the trainees were married. Households of 4 or less were represented by 81% of the participants. 76% of the population understudy were college graduates. 31% indicated they would use the content to teach others while 65% indicated they participated for self-improvement. 68% indicated they heard about the training session via mail or through their employers, while 26% indicated knowledge of training sessions came from the media. Additional data is included in Table 1.

Sex distribution of participants was nearly even, 48% male and 52% female. 76% of the participants were college graduates, while 24% were non-college graduates. Only 31% indicated enrollment for purposes of gaining knowledge to teach others, while 65% indicated enrollment for self improvement. The personal letters to participants or employers were instrumental in recruiting 68% of the participants, while 26% responded because of media publicity.

Data on Cognitive and Affective Dimensions of Trainees

Data showed 408 persons were present at the first training sessions and 233 were present at session five. In other words, 57% of the trainees were present during the fifth session. Of the 233 present during the fifth

Table 1

Biographic Data and Profiles of Participants

SITE	SEX		RACE				AGE						EDUCATION						OCCUPATION		RESIDENCE 1.
	M	F	WHITE	BLACK	AM. INDIAN	OTHER	UNDER 20	20 to 30	31 to 40	41 to 50	51 to 60	OVER 60	8th GRADE	SOME HIGH SCH.	HIGH SCH. GRAD	SOME COL.	COL. GRAD	COL. GRAD +	EDUCATOR	NON-EDUCATOR	
AUBURN	29	31	60	0	0	0	0	18	26	14	2	0	0	0	3	2	15	31	46	14	26
BANGOR	37	43	77	0	3	0	2	24	28	20	8	1	1	2	12	12	20	30	30	50	19
MILLINOCKET	28	32	60	0	0	0	0	27	14	10	8	2	0	1	16	5	15	13	16	44	5
PRESQUE ISLE	15	12	26	0	1	0	0	4	11	11	1	0	1	0	3	6	8	8	4	23	5
SO. PORTLAND	42	57	99	0	0	0	0	38	26	21	10	3	0	0	5	6	20	59	77	22	32
VAN BUREN	15	11	26	0	0	0	1	12	7	6	0	0	0	1	3	4	8	9	11	15	6
WATERVILLE	30	26	56	0	0	0	0	23	14	11	4	2	0	0	1	4	16	31	42	14	18
ALL SITES	196	212	404	0	4	0	3	146	126	93	33	8	2	4	43	39	102	181	226	182	111

1. Reports the number of towns/cities represented in workshop.

Table 1 Continued

SITE	MARITAL STATUS					NO. OF HOUSEHOLD RESIDENTS										INFORMATION[1]				PURPOSE[2]		
	SINGLE	MARRIED	SEPARATED	DIVORCED	WIDOWED	1	2	3	4	5	6	7	8	9	10	EMPLOYER	MAIL	MEDIA	OTHER	TEACHING	SELF-IMPROVE	OTHER
AUBURN	10	48	0	2	0	4	15	15	17	3	2	1	2	0	1	31	20	9	4	25	35	4
BANGOR	13	58	3	5	0	10	23	13	21	9	1	3	1	0	1	26	15	42	6	38	68	4
MILLINOCKET	14	39	0	2	5	8	12	11	18	10	1	2	0	0	0	29	6	25	9	10	57	1
PRESQUE ISLE	3	20	1	3	0	3	7	4	7	3	3	0	0	0	0	7	14	5	0	11	16	2
SO. PORTLAND	25	68	0	3	3	18	23	15	22	11	7	2	1	0	0	61	24	17	2	39	82	5
VAN BUREN	6	18	0	1	1	6	4	2	10	0	2	0	0	0	0	13	3	4	2	6	17	1
WATERVILLE	9	44	0	2	0	6	16	7	12	7	4	0	0	1	0	28	14	10	5	20	41	6
ALL SITES	80	295	4	18	9	55	100	67	107	43	20	8	4	1	2	195	96	112	28	149	316	23

1. Reports how participants learned of workshop.
2. Reports reasons for participating in the workshop.

session 58 sets of data were incomplete. The analysis of data is based upon 175 matched sets of data. This analysis is based upon 75% of those completing the entire workshop series. (See Table 2)

An instrument labeled Metric Quiz was used to measure cognitive dimensions of participants. An instrument labeled Metric Opinionnaire was used to measure the affective dimensions. Both instruments were administered on a pre-post basis and means were calculated for each group. A t-test was made to determine significance at the $p < .01$ level. All cognitive means were significant by site and in total. Van Buren and Waterville were not significant by themselves on the affective dimension. However, the total on the affective dimension which included Van Buren and Waterville was significant at the $p < .01$ level.

Statistical Analysis of a one tailed t-test showed significance from pre to post administration on the cognitive and affective dimension. Though Waterville and Van Buren approach significance by themselves, significance was not found on the pre-post measures on the affective dimension only. It might be noted that Van Buren had 8 in its sample, while Waterville had 29. The small sample size might account for this lack of significance for these two sites. In general, data did show significant positive change for all subjects from pre to post testing on both the cognitive and affective dimensions. It may be concluded that cognitive concept taught to the trainees showed significant gains. Also, affective dimensions of attitude showed positive gains from pre to post administration for all subjects. (See Table 3).

Evaluations of Training Sessions

Evaluation of the training sessions was made with a pre-post administration of a four point scale to trainees. The first administration was given upon completion of session #1. The mean for the first evaluation was 3.468. Upon completion of training session #5, a second administration of the instrument was given. The mean for the second administration was 3.611. A t-test of significance was made between the means of the first and second administration and was not significant. It became apparent that the mean for the first administration was quite high (3.468) and the second administration was also quite high (3.611), leaving little room for increases that might have been statistically significant. It is apparent that the trainees valued the first session quite highly. Also, the trainees valued the fifth session even higher. The lack of statistical significance might be explained by the high rating given to both administrations. (See Table 4)

Random comments were generally positive. 46% appreciated the "hands on" activities. 47% of the random comments indicated that the format was suitable. (i.e., presentation in the format of lecture, group discussion, and activity.) 15% indicated the physical setting (i.e., temperture, space, and noise level) were not appropriate. 9% of the comments indicated too much material was covered too quickly.

Table 2

Number of Participants by Site and Those Used for Analysis

SITE	NO. OF PARTICIPANTS			DATA ANALYZED		
	SESSION 1	SESSION 5	%[1]	INCOMPLETE DATA[2]	MATCHED SETS OF DATA[3]	%[4]
AUBURN	61	47	77	11	36	77
BANGOR	80	52	65	16	36	69
MILLINOCKET	62	25	40	9	16	64
PRESQUE ISLE	26	8	31	2	6	75
SO. PORTLAND	97	55	57	11	44	80
VAN BUREN	25	10	40	2	8	80
WATERVILLE	52	36	69	7	29	81
ALL SITES	408	233	57	58	175	75

1. Percent of participants that completed entire workshop.
2. Number of participants not completing all evaluation instruments.
3. Number of participants completing all evaluation instruments.
4. Percent of participants used in data analysis based on number completing entire workshop.

Table 3

Analysis of Cognitive and Affective Instruments

SITE	N	METRIC QUIZ			METRIC OPINIONNAIRE		
		PRE-TEST	POST-TEST	T-VALUE	PRE-TEST	POST-TEST	T-VALUE
AUBURN	36	2.527	4.222	4.82*	69.444	75.833	2.98*
BANGOR	36	2.000	4.611	7.23*	71.472	79.250	3.68*
MILLINOCKET	16	2.375	4.375	3.27*	68.375	76.187	3.87*
PRESQUE ISLE	6	1.833	5.666	5.12*	72.500	81.166	5.33*
SO. PORTLAND	44	3.068	4.204	4.32*	73.522	79.659	3.89*
VAN BUREN	8	2.500	4.375	3.64*	68.000	77.125	2.30
WATERVILLE	29	2.413	3.655	3.51*	80.758	84.793	.75
ALL SITES	175	2.497	4.274	11.31*	72.702	79.257	5.60*

* = $p < .01$

Table 4

Analysis of Evaluations of Training Sessions

SITE	N	WORKSHOP EVALUATION		
		PRE-TEST	POST-TEST	T-VALUE
AUBURN	36	3.333	3.611	1.62
BANGOR	36	3.500	3.555	.42
MILLINOCKET	16	3.500	3.625	.70
PRESQUE ISLE	6	3.666	3.666	.00
SO. PORTLAND	44	3.363	3.568	1.65
VAN BUREN	8	3.625	3.625	.00
WATERVILLE	29	3.655	3.724	.70
ALL SITES	175	3.468	3.611	2.36*

* = p<.01

Generally the comments were favorable and gave added evidence that the training sessions were appreciated and suitable to the needs of the trainees.

Perceptions By Trainees About Training Sessions Conducted By Them Upon Completion of Formal Training

From the analysis of 111 response sheets submitted by trainees relative to training conducted by them, 2247 persons were impacted through the "ripple effect" of trainees serving as trainers. Of the 2247 persons impacted by the "ripple effect" of trainees conducting training; 1202 were educators (53%), 695 were non-educators (31%) and 350 were housewives (16%). 80 Training sessions were held in schools, 13 in homes, 1 in a club and 6 at other locations. The majority of the training sessions were held during May (53% of 89 sessions). The average training session was 187 minutes in length. All participants (trainees) either agreed or strongly agreed (99%) that they were adequately prepared to conduct training.

Of the 87 trainees responding, all strongly agreed or agreed with the statement that they were effective in teaching. Additional data relative to training conducted by participants is listed in Table 5.

Summary Statement:

In conclusion, trainees were highly pleased with the format and the training of the workshops as evidenced by the training session evaluations and the participants project reports. Significant cognitive and affective gains were demonstrated by the participants during the project as evidenced by analysis of the cognitive and affective instruments. Participants felt they were more than adequately prepared to conduct their own training sessions. Participants demonstrated both the ability and the willingness to impact educators and non-educators during training sessions conducted by them upon completion of training. Participants demonstrated a twenty fold impact through the "ripple effect" of the project training.

Table 5

Data on Training Conducted by Participants

1. Number of Training Session Conducted by Participants:

So. Portland	26
Auburn	30
Bangor	23
Waterville	16
Millinocket	7
Van Buren	6
Presque Isle	3
	111

2. Number of Persons Impacted by Training Sessions:

So. Portland	441
Auburn	966
Bangor	456
Waterville	203
Millinocket	127
Van Buren	14
Presque Isle	40
	2247

3. Primary Occupation of Persons Impacted by Training:

Educators	Non-Educators	Housewife
1202	695	350

4. Location of Training Sessions:

School	80
Home	13
Club	1
Other	6

5. Month and Number of Training Sessions

January	2
February	2
March	14
April	19
May	47
June	2
Other	3
	89

6. Average Length of Training Sessions:

Average in minutes:	187
Total Number of Sessions:	89

Table 5 Continued

7. Adequacy of Metric Workshop Training:

Strongly Agree	61
Agree	38
Disagree	0
Strongly Disagree	1
	100

8. Effectiveness of Participants in Training Others:

Strongly Agree	33
Agree	54
Disagree	0
Strongly Disagree	0
	87

EXHIBIT A

UNIVERSITY OF MAINE *at Orono*

College of Education

Shibles Hall
Orono, Maine 04473
207/581-7020

October 13, 1977

Dear Maine Principal:

We would like to inform you of the Maine Metric Leader Training Program and ask your help in nominating one or more teachers from your school to participate in our training.

We are enclosing a copy of our brochure which describes the training program. Upon reading the brochure, you will see that our program is designed to train a person or persons from your school, in the use of the metric system and how to teach metrics to others. After training these people will have the skills needed to teach metrics to staff, teachers, students, and parents in your school community. In addition, the teacher-trainee would receive CEU credit toward recertification if he or she desires.

We would ask that you share this information with your teachers and nominate one or more for our training program by calling or writing us. We are looking for people who do not necessarily have a strong mathematics or science background but, rather, who enjoy working with their peers and other adults.

After you nominate a person to us and that person is trained in metric education, we would need you to help the trainer facilitate the scheduling of workshop experiences for other teachers, parents groups and community citizens.

Thank you for your help. We look forward to receiving your nominee(s) and hope that you will call us with any questions you might have.

Sincerely,

Dr. John Butzow

Dr. Bernard Yvon

Mr. Gregory Marshall
206 Shibles Hall
581-2754

JB, BY, GM/eh

EXHIBIT B

UNIVERSITY OF MAINE *at Orono*

College of Education

Shibles Hall
Orono, Maine 04473
207/581-7029

Oct. 19, 1977

Dear

The College of Education at the University of Maine at Orono recently received a grant from the U.S. Office of Education in which we are charged with conducting a number of metric education training workshops throughout the State. The metric system, already the measurement system which many Maine people are using in their occupation home and recreational life, will soon be the predominant system of measurement nationwide.

We hope to train approximately 300 people throughout the State to act as volunteer metric trainers who will teach the metric system to others. The training they will give in their communities may vary from on-the-job training of employees, to a speech before a community group, to a metric cook-in, to an in-service course for teachers. We will be helping the trainer to become familiar with the metric system and to design a training experience for others. Volunteers do not necessarily need a background in mathematics or science. We would like to work with people who represent many different professions, businesses organizations, clubs, and associations such as yours.

Our plan is to conduct approximately 6 workshops in each of eight regional centers. Tentatively these centers will be located in the following areas: Biddeford, Rockland, Lewiston, Waterville Bangor, Houlton, Presque Isle, and Van Buren. The series of workshops will begin in November and conclude in March. In April and May we plan to help the metric leaders we have trained to conduct their own training experience.

During the next two weeks we will be contacting people who would like to participate in our training program. We feel that it will be an enjoyable educational experience which will be of personal value and of value to your organization and community. We would appreciate your help in identifying people who would be interested in becoming metric leaders in Maine. Let us hear from you and thank you for your help.

Sincerely,

John Butzow Ed.D.

Bernard Yvon Ed.D.
206 Shibles Hall
581-2754

EXHIBIT C

UNIVERSITY OF MAINE *at Orono*

College of Education

Shibles Hall
Orono, Maine 04473
207/581-7020

Oct. 21, 1977

Dear Vocational Education Director:

We would like to acquaint you with the Maine Metric Education Leader Training Program and ask your help in nominating one or more persons from your center, institute, or community.

Enclosed is a copy of our brochure which describes our training program. Upon reading it, you will note that our emphasis is on training people who will have the skills needed to teach metrics to your staff, students, and others in your community. We expect each of our trainees to use their knowledge in conducting some kind of training for others. Trainees can receive C.E.U. credit toward their recertification if they so desire.

We believe that it is particularly desirable to include vocational teachers in our program since the impact of the metric system is already beginning to be felt in vocational areas.

Beginning in November we will teach the series of six regional workshops in these tentative areas: Biddeford, Rockland, Lewiston, Waterville, Bangor, Houlton, Presque Isle, and Van Buren. We would ask you to share this information with your staff and nominate one or more persons for our program by calling or writing to us. After you nominate people to us, we would ask your help in enabling them to attend the workshops and in scheduling a training experience for others.

Thank you for your help. We look forward to receiving your nominee(s) and hope that you will call us with any questions you might have.

Sincerely,

John Butzow

Dr. John Butzow

Bernard Ryvon

Dr. Bernard Ryvon

Gregory W Marshall

Mr. Gregory W. Marshall
206 Shibles Hall
581-2754

EXHIBIT D

le 11 novembre 1977

Chère Madame,
Chère Mademoiselle,
Cher Monsieur,

Le département d'Education à l'Université du Maine à Orono vient d'obtenir une subvention du U.S. Office of Education qui permettra l'exécution d'un nombre d'ateliers de travail sur l'éducation métrique dans la communauté franco-américaine du Maine. Vous savez sans doutes que ce système de mesure est déjà utilisé par beaucoup de gens dans notre état. En effet il sera bientôt le système de mesure prédominant aux Etats-Unis.

Nous espérons former un groupe d'environs 300 personnes à travers le Maine qui deviendront eux-mêmes animateurs volontaires, et qui à leur tour, enseigneront à d'autres le système métrique. La formation qui sera fait dans les communautés, entre autre consistera d'un cours sur place pour professeur, ou d'un discours prononcé dans un centre communautaire, ou encore d'une présentation dans un milieu ouvrier. Notre tâche sera d'aider l'animateur à se familiariser avec le système métrique et à se munir de connaissances et d'outils qui favoriseront la transmission de ces nouvelles acquisitions à la communauté. On exige pas de connaissances en science ou en mathématique de ceux qui s'offrent comme animateurs volontaires. En plus on aimerait se mettre au travail avec des personnes représentant une variété de professions et de métiers.

Nous proposons exécuter cinq ateliers de travail dans chacun des huit centres régionaux. Pour le moment ces centres seront situés dans les localités suivantes: Biddeford, Portland, Auburn, Waterville, Bangor, Millinocket, Presqu'Isle et Van Buren. La série d'ateliers débutera en novembre et se terminera au mois de mars. Pendant les mois d'avril et mai les animateurs métriques que nous aurons formés pourront compter sur notre aide quand à leur tour il présenteront des ateliers pour les gens de leur communauté.

Durant les deux prochaines semaines nous prendrons contact avec les personnes qui souhaiteraient participer à notre programme de formation en éducation métrique. Nous sommes convaincus que cette expérience éducative vous sera agréable et que vous en tirerez une valeur personnelle. Il s'ensuit que votre organisation ainsi que votre communauté en bénéficieront.

Bienque nous vous ayons écrit en français, il nous faut vite ajouter que les ateliers se dérouleront en anglais. C'est avec un respect pour la culture franco-américaine que nous voulons recruter des franco-américains(es) comme animateurs qui, après leur perfectionnement, s'occuperont de communiquer leurs connaissances sur le système métrique en anglais ou en français selon les besoins socio-culturels du milieu communautaire. Nous nous rendons compte que tout le monde parle l'anglais dans le Maine, mais en même temps, nous sommes fiers de communiquer avec vous dans la langue qui est parlée par des milliers de nos concitoyens.

Le professeur Bernard Yvon qui est un des vôtres ainsi qu'un membre de notre équipe sera à votre disposition au cours de ce projet. Nous vous prions de nous faire parvenir les noms de personnes qui seraient intéressées à devenir animateur métrique dans le Maine. En espérant vous lire sous peu, nous vous remercions d'avance.

Bien à vous,

Bernard R. Yvon

Bernard Yvon
Co-director, Maine Metric Education
Leader Training Program

Yvon A. Labbé

Yvon A. Labbé
Consultant

EXHIBIT E

Maine Metric Education Leader Training Program

what: A metric education program to train persons interested in serving as metric trainers themselves for their own respective groups. (focus on learning the metric system and how to teach it to others)

when: Approximately six 3-hour sessions to be conducted over a five month period. (Nov. 1977 - Mar. 1978)

where: Training sessions will be conducted at regional sites statewide.

how: The focus of training will be on "Thinking Metric." Active hands-on use of the system will be emphasized throughout as much as possible.

costs: None to the participant. This project is co-sponsored jointly by the UMO College of Education and the U.S. Office of Education.

who: John Butzow, Associate Professor of Science Education and Bernard Yvon, Associate Professor of Mathematics Education Shibles Hall, University of Maine at Orono, Orono, ME 04473 will conduct the program.

Yes, I think I would be interested in being a participant in the Metric Training program. I understand that I will then be willing to act as a metric trainer myself for my peers/colleagues.

Name_____ Occupation_____

Address_____ _____

_____ _____

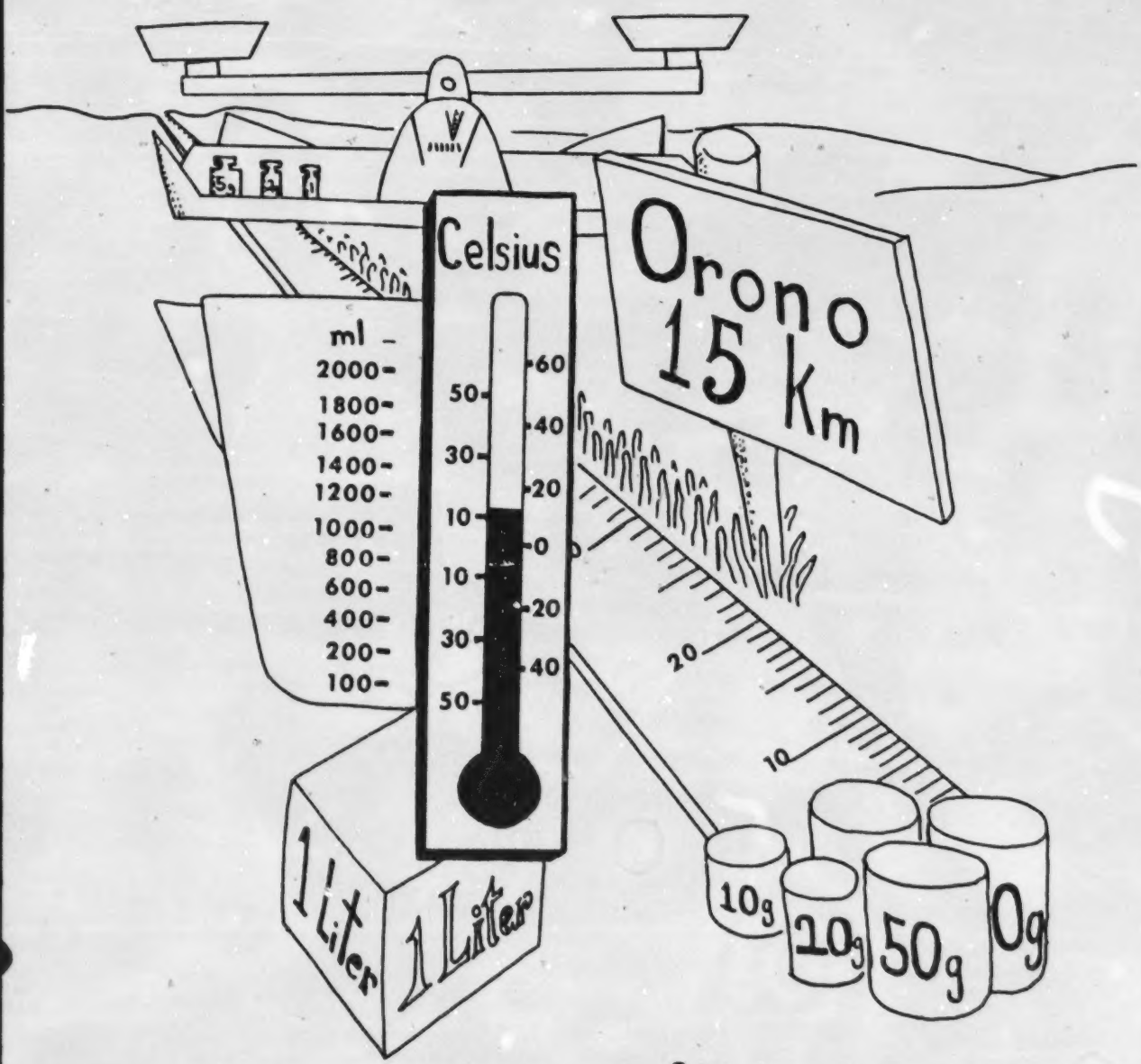
Tel. No._____ _____

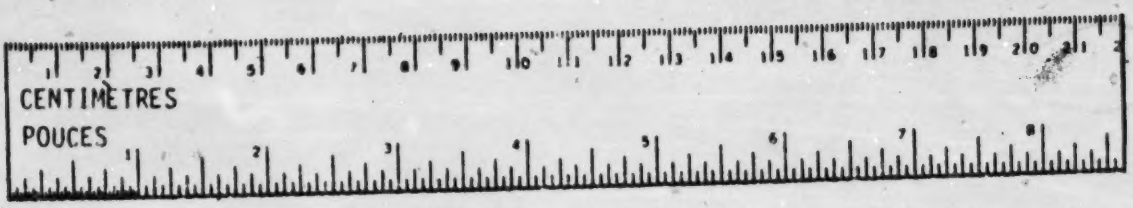
Send to J. W. Butzow and B. R. Yvon, Shibles Hall
University of Maine at Orono, Orono, ME 04473

YOU CAN HELP
MAINE MEASURE UP

with the metric system

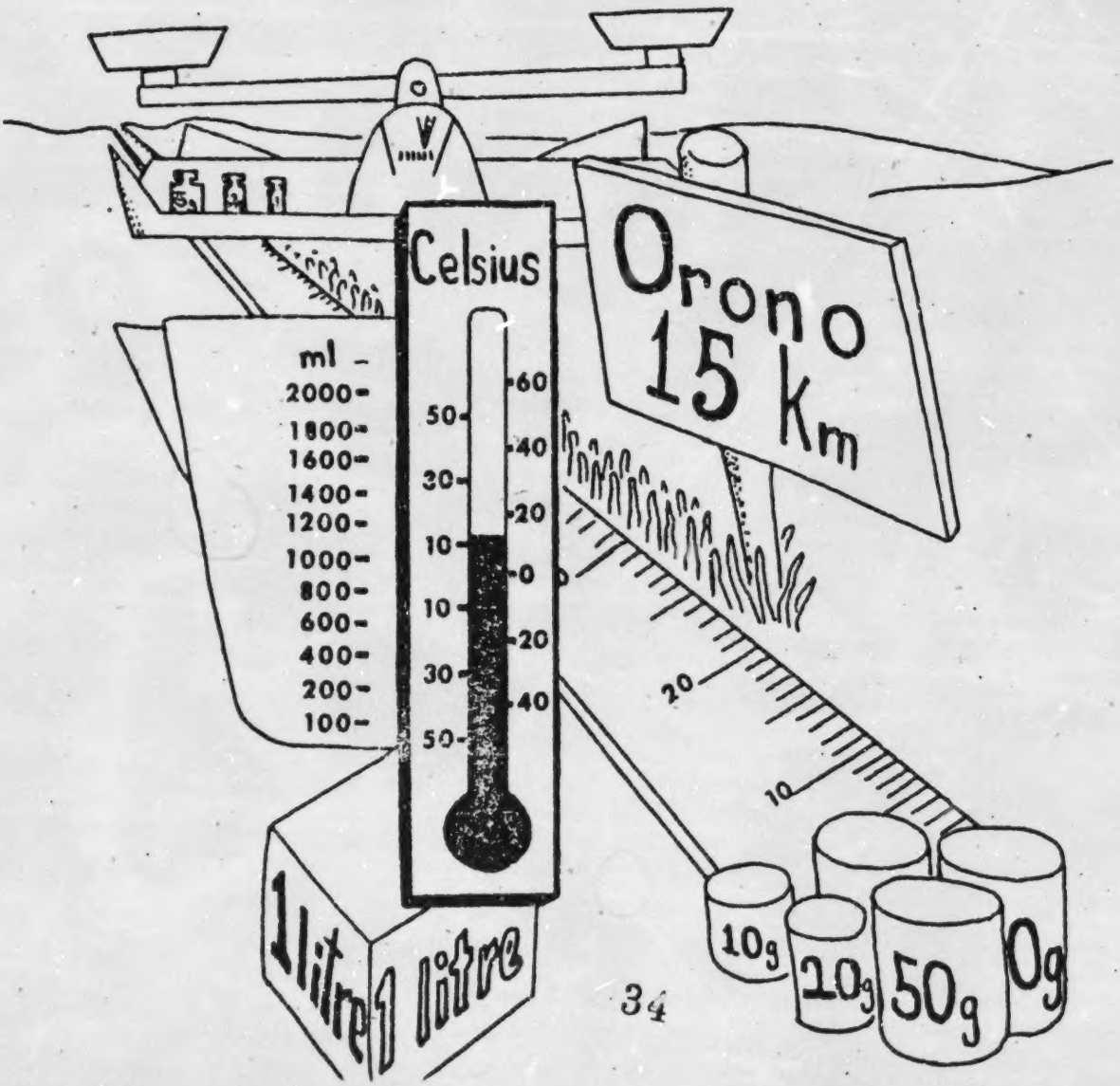
as a metric trainer!





MAINE PEUT RENDRE SA BONNE MESURE

avec le système métrique et vous comme animateur!



C'est quoi: Un programme en education métrique qui vise à former des animateurs. Les personnes intéressées se chargeront par la suite d'organiser des programmes dans leur propre milieu. (avec concentration sur l'acquisition de connaissances métrique et comment les transmettre à d'autres)

quand: A peu près cinq ateliers de 3 heures se dérouleront dans une période de cinq mois (novembre 1977, mars 1978)

ou: Ces ateliers auront lieu à travers l'état dans ces localités suivantes: Biddeford, Portland, Auburn, Waterville, Bangor, Millinocket, Presqu'Isle et Van Buren.

comment: Faire vivre aux participants des expériences concrètes aptes à développer la "pensée métrique."

frais: Aucun pour le participant. Ce projet est co-parrainé par le département d'Education à U.M.O. et le U.S. Office of Education.

qui: Les professeurs Bernard Yvon et John Butzow, Shibles Hall, Université du Maine à Orono, ME 04473 sont chargés du programme.

Oui. Veuillez m'inscrire au programme en Education Métrique. Je consens à devenir un animateur métrique pour mes pareils dans ma localité.

Nom_____ Métier_____

Adresse_____ _____

_____ _____

Tel._____

Envoyer à B.R. Yvon, Shibles Hall, University of Maine at Orono, Orono, ME 04473

EXHIBIT G

NEWS — NEWS

NEWS

UNIVERSITY OF MAINE AT ORONO

THE LAND-GRANT UNIVERSITY OF THE STATE OF MAINE

DEPARTMENT OF PUBLIC INFORMATION AND CENTRAL SERVICES
Leonard H. Harlow, Director 581-7336 (Home 945-5221)

FOR RELEASE SATURDAY, OCTOBER 22

ORONO--Wanted by the University of Maine at Orono: 300 people to participate in a metric education leader training program.

Two UMO College of Education faculty members, Dr. Bernard R. Yvon and Dr. John W. Butzow, funded by a grant from the U.S. Office of Education, will schedule a series of eight workshops throughout Maine from November to March to train people interested in serving as metric trainers themselves. The workshops will include six three-hour sessions.

Participants need have no mathematics, science or teaching background. The only requirement is that they use what they learn to teach others in any way they wish such as a talk to an organization, a metric cook-in for neighbors, or a training program for fellow employes.

Workshops will not be lecture-oriented, but will include actual work with metrics and an active hands-on use of the system.

Tentative sites selected for the workshops are Portland, Rockland, Lewiston, Waterville, Bangor, Houlton, Presque Isle and Van Buren, but these sites may be changed if a particular area has a large number of participants enroll.

Anyone wishing to participate in a workshop may write to Butzow or Yvon at 206 Shibles Hall or call 581-2754. There is no cost to participants.

The United States, the last major country not already well underway to conversion to the metric system, is already committed to the change and these workshops are planned to help Maine people make the change as painlessly as possible.

-mh- 10/20/77

EXHIBIT H

NEWS NEWS NEWS

UNIVERSITY OF MAINE AT ORONO

THE LAND-GRANT UNIVERSITY OF THE STATE OF MAINE

DEPARTMENT OF PUBLIC INFORMATION AND CENTRAL SERVICES

Leonard H. Harlow, Director 581-7336 (Home 945-5221)

FOR RELEASE FRIDAY, NOVEMBER 11

ORONO--American Education Week will be marked by the first of 40 workshops in the Maine Metric Education Leader Training Program conducted by two University of Maine at Orono College of Education faculty members.

Dr. John Butzow and Dr. Bernard Yvon will conduct the first workshop in a series of five to be offered at UMO's Bangor Community College campus Monday (Nov. 14) from 6:30 to 9:30 p.m.

The series of workshops, which will be held at eight different sites throughout Maine, are funded by the U.S. Office of Education to train 300 metric leaders in the state. The first workshop at each of ths sites in addition to Bangor is scheduled to be held Nov. 17, Van Buren; Nov. 21, Waterville; Nov. 28, Portland; Nov. 30, Biddeford; Dec. 5, Millinocket; Dec. 7, Presque Isle, and Dec. 8, Auburn. All the sessions will be held from 6:30 to 9:30 p.m. The series will end in mid-April.

The metric workshops are designed to help the participants to think metrically and to assist others in learning the metric system. The workshops are open to people of all occupations and with a variety of interests. Anyone who would like to attend may call Gregory Marshall, 206 Shibles Hall, UMO, 04473.

-mh- 11/9/77

EXHIBIT H

NEWS — NEWS

NEWS

UNIVERSITY OF MAINE AT ORONO

THE LAND-GRANT UNIVERSITY OF THE STATE OF MAINE

DEPARTMENT OF PUBLIC INFORMATION AND CENTRAL SERVICES

Leonard H. Harlow, Director 581-7336 (Home 945-5221)

EXHIBIT I

UMO PUBLIC SERVICE ANNOUNCEMENT

METRIC TRAINING PROGRAM

for use to Nov. 15, 1977

The Metric System is here to stay. Wherever we look, whatever we do, our lives touch metrics. The College of Education and the U.S. Office of Education are co-sponsoring a METRIC TRAINING PROGRAM. The objective is to train persons interested in serving as metric trainers. Six 3 hour sessions between now and March will enable you to learn and teach metrics. Training Sessions will be conducted at Regional Sites Statewide. For information, write Shibles Hall, University of Maine at Orono or call 581-2754. THINK METRIC!

DEPARTMENT OF PUBLIC INFORMATION AND CENTRAL SERVICES

NEWS

UNIVERSITY OF MAINE AT ORONO

Leonard N. Harlow, Director
(Home: 945-5221; Office: 581-7336)

INSTRUCTION RESEARCH EXTENSION

FOR RELEASE MONDAY, JULY 25

ORONO--The kids take to it like ducks to water, teachers have no difficulty with it once they get involved, but parents and other adults on the whole don't want to have anything to do with it, say two University of Maine at Orono College of Education faculty members.

In case you haven't guessed, the answer to that riddle is the metric system. The United States is the last major country not already well underway to complete conversion to the International System of Units (the metric system).

Dr. John Butzow and Dr. Bernard Yvon of the UMO College of Education have just received a U.S. Office of Education grant to begin helping Maine people to make the change as painlessly as possible. As veterans of almost 40 metric workshops for teachers over the past five years they are well prepared for their current project, Metrification-Leader Training.

They plan to train two types of people who will then be expected to train others. First are teachers who will be expected to organize and conduct two-day programs for their local education agency, and community leaders who will agree to give a session on the metric system for lay adults and parents and a similar session for business and industry.

A series of training workshops will be established throughout the state at approximately eight regional centers and about six sessions will be offered at each location.

Anyone interested in information about locations for possible workshops, including service organizations, PTA's, school districts and others, are invited to contact either Butzow or Yvon.

more

"Our overriding goal is to assist the people of Maine to help themselves into metrics." Butzow and Yvon said. The workshops will include basic metrics, how to learn and teach metrics. metrics and the community, and how metrics affects us culturally.

Butzow said that the ordinary person can learn enough about metrics for his own daily use in several hours, if he is willing after instruction to buy a centimeter tape and use it in his day to day activities.

As workshop leaders Butzow and Yvon don't plan to tell participants how to conver so many inches to centimeters. Their method will not be a math lesson, but an opportunity to learn a new language.

Yvon, who spent the last year in England studying the entire metric system conversion there said that they are nearing the end of the pre-conversion system there and it is the people who are already out of school who are having trouble with it. "But once you do learn, it is easier and more convenient," he said.

-mh-

7/22/77

EXHIBITS J, K, L, M, N, O, P, (NEWSPAPER CLIPPINGS)
REMOVED DUE TO COPYRIGHT RESTRICTIONS.

	Van Buren	Presque Isle	Millinocket	Bangor	Waterville	Auburn	Portland/Biddeford	Total
accountant			1					1
accountant supervisor			2					2
agribusiness manager		1						1
aircraft machanic foreman		1						1
automobile salesman		1						1
beautician	1						1	2
billing clerk			2					2
book keeper							1	1
building contractor		1						1
business manager			1					1
cashier				2				2
check scaler			1					1
chemical eng. tech.				1				1
city engineer							1	1
city electrician						1		1
city planner							1	1
clerk			2	1				3
concrete plant manager		1						1
construction manager		1						1
								~~43~~

EXHIBIT Q

	Van Buren	Presque Isle	Millinocket	Bangor	Waterville	Auburn	Portland/Biddeford	Total
construction manager							1	1
controller				1				1
cook				1				1
coop. extension agent		1						1
core cook			1					1
custodial services supervisor				1				1
dietitian				1				1
dining hall supervisor				1				1
dining hall worker				1				1
domestic engineer			3				1	4
electrical engineer						1		1
electrician								
farmer				1				1
food service manager			1					1
food service worker				1				1
freight clerk			1					1
fuel oil dealer				1				1
fuel oil worker				1				1
hardware retail		2						2

EXHIBIT Q (cont.)

	Van Buren	Presque Isle	Millinocket	Bangor	Waterville	Auburn	Portland/Biddeford	Total
health education coordinator	1	3			3	1		8
homemaker	1		2	1	1	1	1	7
hotel manager		1						1
housewife	2		7	5	1	1		16
immigration inspector				1				1
industrial engineer							1	1
industrial equip. service				1				1
industrial supply manager	1							1
iron worker			1					1
line supervisor-power co.						1		1
machine operator			1					1
mental worker (health)					1			1
meteorologist						1		1
mill manager	1							1
museum curator					1			1
nurse-liscensed practical				1				1
nurse-registered		1	1	1				3
office clerk/worker			3					3

EXHIBIT Q (cont.)

	Van Buren	Presque Isle	Millinocket	Bangor	Waterville	Auburn	Portland/Biddeford	Total
office service supervisor			1					1
oil/gas dept. foreman			1					1
operations manager				1	1			2
papermaker			2					2
parent							1	1
plastic/aluminum fabricator							1	1
plumber			1					1
photographer				1				1
potato packing supervisor		1						1
potato salesman		1						1
printshop manager				1				1
prasthetist/orthotist				2				2
railroad woker			1					1
retired								
real estate salesman				1				1
residential life director				1				1
safetly inspector	1							1
safety supervisor			1					1

EXHIBIT Q (cont.)

	Van Buren	Presque Isle	Millinocket	Bangor	Waterville	Auburn	Portland/Biddeford	Total
sales clerk			1					1
salesman	1							1
sales scheduling rep.			1					1
school bus driver			1					1
secretary			1	1			2	4
social worker					1		1	2
spare worker			1					1
store manager	1			1	1			3
student	1			4	1			6
surveyor						1		1
town manager	1							1
turbine operator				1				1
waitress			1					1
teacher	3	2	4	16	14	17	27	83
elementary				2	4	1	7	14
k				1	2	1		4
1						3	3	6
2			1			3	3	7
3			1			1	1	3
4			1	3	1	1	1	7

EXHIBIT Q (cont.)

	Van Buren	Presque Isle	Millinocket	Bangor	Waterville	Auburn	Portland/Biddeford	Total
5	1			3	2	3	1	10
6					1	2	3	6
elem. director					1			1
jr. high					1	1	1	3
7								
8								
9								
high school							2	2
10								
11								
12								
math	3	3	1	1	1		6	15
consultant				1		1	2	4
elementary					1	1	1	3
jr. high			2	3	1	1		7
high school						1	1	2
math/science	1			1	1	1		4
science			1	1			1	3
elementary			1					1
high school							1	1
jr. high			1	1			1	3

EXHIBIT Q (cont.)

	Van Buren	Presque Isle	Millinocket	Bangor	Waterville	Auburn	Portland/Biddeford	Total
vocational					1	1		2
carpentry					1			1
business	1				1			2
electronics		1						1
health occupations		1						1
home economics			1					1
industrial arts	1		1					2
masonry						1		1
machine trades					1	1		2
adult education						1	3	4
special education					1		1	2
consumer education				1				
university/college				4				4
labor educator				1				1
music	1							
retired					1			1
curriculum director							1	1
resource			1				1	2
teacher aide/assistant	1	1		1			1	4
principal						2	2	4

EXHIBIT Q (cont.)

	Van Buren	Presque Isle	Millinocket	Bangor	Waterville	Auburn	Portland/Biddeford	Total
teacher/principal						2	2	4
retired			1					1
administrator							1	1
none given	2	5	2	6		2	14	31

EXHIBIT Q (cont.)

	BUSINESS	EDUCATION	INDUSTRY	LIVING SKILLS	PROFESSIONAL	TRADES	NONE
TOTAL	6% (24)	56% (227)	8% (33)	7% (28)	9% (35)	6% (24)	8% (31)
V an Buren	6% (2)	52% (16)	13% (4)	10% (3)	6% (2)	6% (2)	6% (2)
Presque Isle	14% (4)	21% (6)	14% (4)	0% (0)	21% (6)	14% (4)	17% (5)
Millinocket	15% (9)	24% (15)	19% (12)	21% (13)	8% (5)	10% (6)	3% (2)
Bangor	6% (5)	54% (43)	13% (10)	8% (6)	13% (10)	6% (5)	0% (0)
Waterville	4% (2)	65% (33)	2% (1)	4% (2)	12% (6)	6% (3)	12% (6)
Auburn	0% (0)	77% (56)	2% (1)	4% (2)	9% (5)	5% (3)	4% (2)
Port./Bidd	3% (3)	75% (75)	2% (2)	2% (2)	3% (3)	2% (2)	14% (14

Percentage of Metric Workshop Participants in Need Areas (number of participants)

EXHIBIT Q (cont.)

EXHIBIT R

BIOGRAPHIC DATA QUESTIONNAIRE

1. Occupation: _____

2. Sex: (Circle one) M F

3. Race: (Check one)

   White _____

   Black _____

   Native American (Indian) _____

   Other (Specify) _____

4. Age: (Check appropriate line)

   Under 20 _____
   20 - 30 _____

   31 - 40 _____

   41 - 50 _____

   51 - 60 _____

   Over 60 _____

5. Employer

   Where do you work?

   a. Name of firm or organization: _____

      _____

   b. Address: _____

   c. Describe your position: _____

      _____

6. Marital status (Check one)

   Single _____

   Married _____

   Separated _____

   Divorced _____

   Widowed _____

(continue on opposite side)

7. Number of people or residents in the household where you live: _____

8. What nationality, if any, do you claim?

_____

9. Educational Background (Check level completed)

8th grade _____

some high school _____

High School graduate _____

Some college _____

College graduate _____

College graduate plus _____

Other (Specify) _____

10. How did you find out about this training program?

_____

_____

11. Why did you choose to attend these sessions?

_____

_____

_____

EXHIBIT S

Name:_____

Soc. Sec. #_____

Pre_____ Post_____

OPINIONNAIRE ABOUT METRICS

Directions: Below are ten questions that deal with the metric system. Each item is followed by a line that represents a range of opinions you might hold. Please decide how you feel about each item and place an (X) at the point on the line that most closely reflects your opinion.

1. How well do you understand the metric system of weights and measures?

A Great Deal of Understanding — No Understanding

2. How much do you use metrics in your personal and/or professional life?

Use Metrics All the Time — Never Use Metrics

3. How comfortable do you feel with information reported in metric units?

Extremely Comfortable — Extremely Uneasy

4. How important do you believe it is for everyone to learn the metric system of weights and measures?

Extremely Important — Extremely Unimportant

5. How confident do you feel that you can help other people learn the metric system?

Very Confident — No Confidence

(Continue on opposite side)

6. What responsibility do you believe you have to help other people learn the metric system?

A Great Deal of Responsibility — No Responsibility

7. How important do you believe it is for all Americans to accept and use the metric system of weights and measures?

Extremely Important — Extremely Unimportant

8. How soon do you believe the United States' government should convert to the metric system?

Immediately — Never

9. How important do you believe it is for the United States' government to set an exact date for the conversion to the metric system?

Extremely Important — Extremely Unimportant

10. How soon do you believe businesses and industries should convert to the metric system?

Immediately — Never

EXHIBIT T

Name_____

Social Security Number_____

Metric Quiz for Session #1

Note for questions number one through four, please refer to the coffee cup distributed by the workshop leaders.

1. The distance across the top of the coffee cup is about _____centimeters (cm)

2. The temperature of the water being placed into the cup is about _____degrees celsius. (C^{o})

3. How much does the coffee cup together with the water in it weigh? _____ grams (g)

4. How much water does the cup hold in milliliters? _____milliliters (ml)

5. My guess of the temperature in this room is about _____ degrees celsius. (C^{o})

6. Please try to look at Bernie Yvon. His height is about _____ centimeters (cm)

7. The height of this room is about _____meters (m)

8. Make two marks on the line below showing a distance of 35 millimeters (ml)

9. Greg Marshall is holding up a pail (he often does this as a pastime). How many liters of water could Greg put into the pail without getting wet? _____liters (l)

10. Look at John Butzow if you care to. He tips the scales at about _____kilograms (kg)

Thanks for your cooperation, you are now on the way to METRICS.....

EXHIBIT U

Name _____

Social Security Number _____

Metric Quiz for Session #5

Note: Questions #1 - #4 refer to the mildshake container distributed by the workshop leaders.

1. The distance across the top of the milkshake container is about _____ centimeters (cm).

2. The temperature of the water in the milkshake container is about _____ degrees celsius (c^{o}).

3. How much does the milkshake container together with the water in it weigh? _____grams (g).

4. How much water does the milkshake container hold in millliliters? _____ millliliters (mℓ)

5. The temperature in this room is about _____ degrees celsius (C^{o}).

6. The height of the person selected by the workshop leaders is about _____ centimeters (cm).

7. The height of the tent pole is about _____ meters (m).

8. Make two marks on the line below showing a distance of 155 millimeters (mm).

---

9. How many liters of water could be poured into the pail being held by one of the workshop leasers before it will overflow _____ liters (ℓ).

10. The weight of the person selected by the workshop leaders is about _____ kilograms (kg).

EXHIBIT V

Name: _____

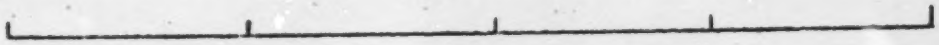
Soc. Sec. # _____

Pre____ Post____

EVALUATION OF THE TRAINING SESSION

Directions: Please take a few minutes to respond to the four items below. Your response will help us to evaluate this training session and to identify ways to improve future training sessions.

1. What is your over-all impression concerning the effectiveness of this training session?



Very Effective | Effective | Ineffective | Very Ineffective

2. Please identify <u>one</u> or more strength(s) of this training session.

3. Please identify <u>one</u> or more weakness(es) of this training session.

4. Please identify <u>one</u> or more way(s) you feel we could improve future training sessions.

Metric Education Report EXHIBIT W

Name_____ Address_____

_____

1. Please describe the location where the training session was held. (i.e., home, local school, club, civic group meeting room, etc.)

_____

_____

2. Date of Session_____

3. How long was the training session? (Time in Minutes)_____

4. Number of participants present_____

5. Please describe the way in which you recruited the participants for the training session._____

_____

_____

6. What is the primary occupation of the participants? (e.g., teacher, housewife, engineer, clerk, etc.). Please identify these occupations and the number of each.

Occupation:	Number:
_____	_____
_____	_____
_____	_____
_____	_____

7. Please write a brief description of the training session. (i.e., what did you do?)_____

_____

_____

8. What metric measures did you work with in the training session?_____

_____

9. Please list any equipment and materials you used in the training session.

_____ _____ _____

_____ _____ _____

_____ _____ _____

*Note: Please attach to this form a copy of any printed material you used in the training session.

10. I believe I was adequately trained in the metric workshop to conduct this training session. (Check one)

_____strongly agree

_____agree

_____disagree

_____strongly disagree

11. What one activity or experience in the metric workshop do you believe was most helpful in preparing you to conduct the training session?

_____

_____

12. What one activity or experience in the metric workshop do you believe was least helpful in preparing you to conduct the off-site training session?

_____

_____

13. What changes would you suggest in future metric workshops to more adequately prepare others to conduct training sessions?_____

_____

_____

14. I believe I was effective in teaching the participants at this training session about metrics. (Check one)

_____strongly agree

_____agree

_____disagree

_____strongly disagree

15. If you were to run another training session what would you do to change it?_____

_____

_____

16. Did the participants in the training session make any comments about the content or effectiveness of the session? If so, what were their comments?_____

_____

_____

17. What, if any, are your plans for conducting additional training sessions?_____

_____

_____

18. Please comment briefly on anything not covered in this summary._____

_____

_____

19. Where did you participate in the Maine Metric Education Leader Training Program

Van Buren_____ Waterville_____

Presque Isle_____ Auburn_____

Millinocket_____ South Portland____

Bangor_____

20. Send this report to Dr. David Silvernail
Bailey Hall
University of Maine at Portland-Gorham
Gorham, ME 04038

Please mail report by May 17, 1978